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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,427	07/12/2000	Henry Schellhorn	250/271	2097

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EXAMINER

SUBRAMANIAN, NARAYANSWAMY

ART UNIT PAPER NUMBER

3624

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/614,427

Applicant(s)

SCHELLHORN, HENRY

Examiner

Narayanswamy Subramanian

Art Unit

3624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Original claims 1-16 have been examined. The rejections are stated below.

#### ***Claim Rejections - 35 USC § 101***

2. The claimed invention is directed to non-statutory subject matter. Claims 1-9 are drawn to a method for financial estimation that is not tied to any technological art. The claimed invention is directed merely to human making mental computations and manually plotting results on paper, and thus is nothing more than an abstract idea, which is not tied to any technological art, and is not a useful art as contemplated by the constitution. The abstract idea does not become a technological art merely by the recitation in the claim of “transforming physical media into a chart” and “physically plotting a point on said chart”. (See Ex parte Bowman, 61 USPQ2d 1669, 1671 (Bd. Pat. App. & Inter. 2001) (Unpublished))

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11-16 recite the limitation “a method of claim 10”, whereas claim 10 is drawn to a computer program product. There is insufficient antecedent basis for these limitations in claims 11-16.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Traub et al (US Patent 6058377) in view of Makivic (US Patent 6061662).

With reference to claim 10, Traub discloses a computer program product that includes a computer-usable medium, the medium having stored thereon a sequence of instructions which, when executed by a processor (See Traub claim 13), causes the processor to execute a process for financial estimation, said process comprising: (a) providing a portfolio of financial instruments having a schedule of payment times (See Traub Column 1 lines 43-45); (b) generating a plurality of interest rate scenarios by Monte Carlo simulation using a stochastic term structure (See Traub Column 1 lines 31-35); (c) calculating, for each financial instrument; a set of financial outcomes using a subset of interest rate scenarios (See Traub Column 1 lines 34-37); (d) interpolating, from the sets of financial outcomes, a first function that estimates the aggregate value of the portfolio when sampled at the payment times with an aggregate principal of the portfolio and a first interest rate scenario (See Traub Column 1 lines 44-47); (e) providing a second function that estimates a value for a financial instrument from the portfolio when sampled at the payment times using a second interest rate scenario (See Traub Column 1 lines 44-47); and (f) using an interest rate scenario from the plurality of interest rate scenarios, calculating a value of the second function for each financial instrument in the portfolio and a value of the first function to estimate, respectively, a value for the portfolio and an aggregate value for the portfolio (See Traub Column 1 lines 53-56).

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Traub does not explicitly teach the step of forming a control variate based upon the estimated value of the portfolio, the estimated aggregate value of the portfolio, and an expected value of the aggregate value of the portfolio.

Makivic teaches using control variate to estimate the value of financial instruments. The choice of the functional form of the control variate depends on the value being estimated.

It would have been obvious to one with ordinary skill in the art at the time of the current invention to combine the steps taught by Makivic to the invention of Traub. The combination of the disclosures taken as a whole, suggests that users would have benefited from the advantages of this technique with respect to speed and cost savings over a traditional Monte Carlo technique.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Narayanswamy Subramanian whose telephone number is (703) 305-4878. The examiner can normally be reached Monday-Thursday from 8:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached at (703) 308-1065.

The fax number for Formal or Official faxes and Draft or Informal faxes to Technology Center 3600 or this Art Unit is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

N. Subramanian  
March 31, 2003

**RICHARD WEISBERGER**  
**PRIMARY EXAMINER**